



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/758,721      | 01/16/2004  | Rudy S. Padilla      | 83928               | 6553             |

32697 7590 05/25/2006

OFFICE OF PATENT COUNSEL  
SPAWARSYCEN, CODE 20012  
53510 SILVERGATE AVE. ROOM 103  
SAN DIEGO, CA 92152-5765

EXAMINER

THOMAS, BRANDI N

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2873

DATE MAILED: 05/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/758,721

Applicant(s)

PADILLA ET AL.

Examiner

Brandi N. Thomas

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 April 2006.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.  
4a) Of the above claim(s) 13-20 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,3 and 11 is/are rejected.  
7) ☒ Claim(s) 2,4-10 and 12 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☒ Other: Detailed Action.

Art Unit: 2873

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Greywall (6690850) in view of Downs (6678056 B2).

Regarding claim 1, an optical modulator, comprising: a substrate (1274) (col. 11, line 6); a reflector (1276) (col. 11, lines 7- 10); a pair of electrically conductive traces (1384) operably connected to said reflector (col. 11, lines 27-31); an electrically conductive pad (1382) operably connected to each of said conductive traces (1384) (col. 11, lines 27-31); and a biasing source (532A and 532B) operably coupled to said conductive pads (1382) for providing a modulated voltage to said reflector (1276) (col. 11, lines 7-10) but does not specifically disclose three substantially planar reflectors arranged substantially mutually orthogonal to each other and wherein said planar reflectors comprise: a base reflector disposed substantially in the plane of said substrate; and first and second side reflectors operably couple to said base reflector. Downs discloses, in figures 8 and 9, three substantially planar reflectors (a corner cube reflector, 164 and 166) and wherein said planar reflectors comprise: a base reflector disposed substantially in the

Art Unit: 2873

plane of said substrate (168) (col. 13, lines 47-49); and first and second side reflectors operably couple to said base reflector (col. 13, lines 47-62). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Greywall with the reflector of Downs for the purpose of producing a pair of interferogram beams in phase quadrature (col. 13, lines 47-62).

4. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greywall (6690850) in view of Downs (6678056 B2) as applied to claim 1 above, and further in view of Meier (4916324).

Regarding claim 3, Greywall and Downs disclose the claimed invention but do not specifically disclose wherein the base reflector comprises at least one layer by which the reflection properties of said base reflector is altered with an applied voltage. However, Meier discloses an optical modulator including an electro-optic material, in which applied electrical fields are used to generate and control the electro-optic material included in the reflector (col. 2, lines 4-11). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the devices of Greywall and Downs with the reflector of Meier for the purpose of receiving intensive radiation components from the targeted area (col. 2, lines 4-11).

Regarding claim 11, Greywall and Downs disclose the claimed invention but do not specifically disclose wherein the base reflector comprises an electro-optical material. Meier discloses an optical modulator, wherein said base reflector comprises an electro-optic material (col. 2, lines 4-11). Therefore it would have been obvious to one having ordinary skill in the art

Art Unit: 2873

at the time the invention was made to combine the devices of Greywall and Downs with the reflector of Meier for the purpose of receiving intensive radiation components from the targeted area (col. 2, lines 4-11).

*Allowable Subject Matter*

1. Claims 2, 4-10, and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
2. The prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the independent claim(s), in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in claim(s) 2, 5, and 12, wherein the claimed invention comprises, in claim 2, a source for directing a beam of incident electromagnetic energy to said substantially planar reflectors; and a detector for collecting a reflected beam of modulated electromagnetic energy from said substantially planar reflectors; in claim 5, the electrochromic stack comprises an ion storage layer, an ion conductive layer disposed on said ion storage layer; and an electrochromic layer disposed on said ion conductive layer; in claim 12, a first structural member operably coupled to the first reflector, first mini-locking plate, a tenon, a second structural member operably coupled to said second reflector, second mini locking plate, and a third structural member operably coupled to the second side reflector, as claimed.

*Response to Arguments*

3. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.
4. Applicant's arguments filed 12/2/05 have been fully considered but they are not persuasive. Downs discloses a corner cube reflector (164 and 166), which includes incoming and outgoing signals; therefore the optical signals are parallel.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandi N. Thomas whose telephone number is 571-272-2341. The examiner can normally be reached on 7- 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571-272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

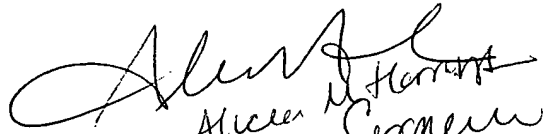
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/758,721

Page 6

Art Unit: 2873

  
BNT

  
Alice J. Horvath  
Prinay Exoner